

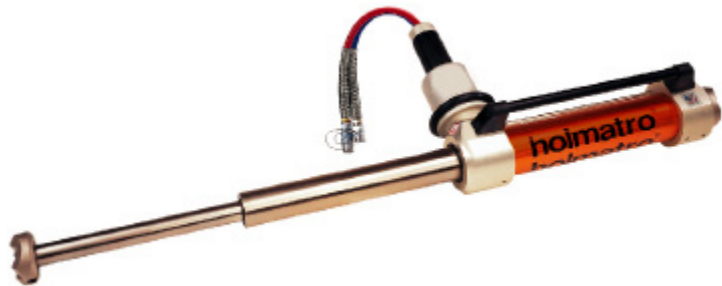


Rescue tool

## TELESCOPIC RAMS: 3340 & 3350



3340



3350

**These Tools comply with NFPA-1936, standard on powered rescue tool systems.**



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## 1. Introduction

We congratulate you on this purchase. Be sure to read and understand this user manual before using the tool. This user manual covers the basic aspects for the safe use and operation of this equipment.

First of all check that your equipment is complete and undamaged. Notify your Holmatro dealer immediately if the equipment is damaged or incomplete, and do not use the equipment.

This equipment is designed for use by professional, fully trained fire and rescue personnel.




This is a double-acting hydraulic tool designed to be driven only by a Holmatro hydraulic pump. The entire system operates with mineral oil hydraulic fluid to an allowable pressure of 720 bar.

Follow these instructions to ensure your safety and to keep your equipment in good condition.

## 2. Safety Symbols



THIS IS THE SAFETY ALERT SYMBOL. IT IS USED TO ALERT YOU TO POTENTIAL PERSONAL INJURY HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO AVOID POSSIBLE INJURY OR DEATH.

 <b>DANGER</b>	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 <b>WARNING</b>	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 <b>CAUTION</b>	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
<b>CAUTION</b>	CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage



### 3. Safety Instructions



Study these operating instructions carefully before operating this equipment.

- \* Study these operating instructions carefully before operating this equipment.
- \* Use this equipment only for jobs for which it is designed. If in doubt or unsure, be sure to consult your dealer.
- \* Always wear personal protection equipment such as safety goggles, helmet, gloves, protective clothing and safety shoes.
- \* Keep spectators at sufficient distance.
- \* Stand on stable ground and use both hands to hold and/or operate the equipment.
- \* Hold the equipment only at the appropriate places, i.e. at the deadman's handle and the carrying handle.
- \* Stabilize the objects the tool will be used on.
- \* Ensure that the load is always applied to the centre of the cross heads and prevent angular loads.
- \* Allow only the cross heads of the ram to come into contact with the objects to be moved.
- \* Ensure that the dead-man's handle does not come in contact with firm objects. Stop in time!
- \* In the event of oil leakage, stop immediately and consult the troubleshooting list.
- \* In the event of unfamiliar noise, vibration or other unusual behaviour, stop immediately and consult your dealer.
- \* Never disconnect the quick-action couplings when the pump is in operation and when the pressure relief valve of the pump is in the "Operation" position.
- \* Store the ram with its piston(s) slightly projecting. To do this, first close the pistons completely, then open one section slightly.
- \* Use only original Holmatro accessories and parts.
- \* Observe the maintenance instructions.
- \* Only trained service technicians certified by Holmatro are allowed to repair this equipment.
- \* Replace safety symbols/pictograms and/or information labels if illegible.
- \* The safety valves between the couplers must never be adjusted. In the event that a problem develops with the safety valve, contact your dealer.
- \* This equipment must only be operated with non-toxic mineral base hydraulic oil distributed by Holmatro.

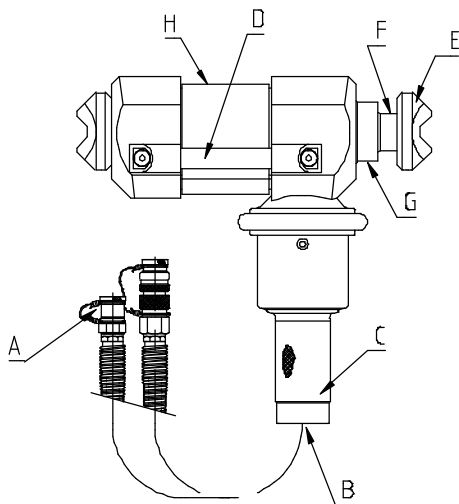
### 4. Legend of symbols/warnings used on labels/stickers:

- Wear personal protection equipment
- Dead-man's handle operating direction
- Product identification: model, serial number, year of construction, etc.
- Warning: "Center the load"
- Warning: "Never work under/between the load".



## 5. Description: model HTR3340

### 5.1 Product identification



- |                             |                                |
|-----------------------------|--------------------------------|
| A. Quick-action couplings   | E. Cross heads                 |
| B. Safety relief valve      | F. Small Piston (2nd Section)  |
| C. Dead-man's handle        | G. Large Piston ( 1st Section) |
| D. Carrying handle (option) | H. Cylinder                    |

### 5.2 Specifications

#### Ram model: HTR3340

Allowable operating pressure	:	10,500 psi	(720 bar)
Max. Force (NFPA-1936 HSF) 1 <sup>st</sup> Section*	:	49,145 lbs	(218.6 kN)
Max. Force (NFPA-1936 HSF) 2 <sup>nd</sup> Section**	:	18,210 lbs	(81 kN)
Max. spreading travel	:	11 inches	(279 mm)
Piston length 1st Section	:	6 1/8 inches	(155 mm)
Piston length 2nd Section	:	4 7/8 inches	(124 mm)
Weight, ready for use	:	27 lbs	(12 kg)
Closed Dimensions (LxWxH)	:	12" x 16.5" x 6 1/8"	(305 x 420 x 155 mm)
Oil volume required for opening	:	38 cu in	(628 cc)
Oil volume required for closing	:	7.5 cu in	(124 cc)
Net required oil volume	:	30.5 cu in	(504 cc)
Temperature range	:	-4 F° to + 176° F	(-20 °C to +80 °C)

\* The maximum (HSF) and minimum (LSF) forces are equivalent.

\*\* The maximum (HSF) and minimum (LSF) forces are equivalent.

#### Opening and closing times (sec.) for HTR3340.

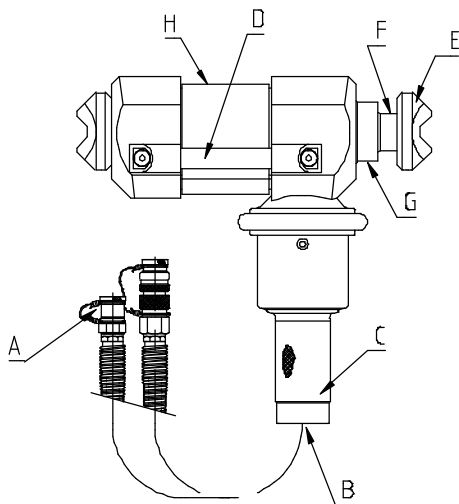
Open Close	2032	2035 GU	2035 PU	2035 EPA	2060 B&S	2060 Honda	2060 GU	PPU15	DPU60 B&S	DPU60 Honda	DPU60 E
	29	17	15	15	14	14	15	15	18	18	18
	9	13	14	14	13	13	14	13	13	13	15

The times shown are for opening & closing under no load.



## 6. Description: model HTR3350

### 6.1 Product identification



- |                             |                               |
|-----------------------------|-------------------------------|
| A. Quick-action couplings   | E. Cross heads                |
| B. Safety relief valve      | F. Small Piston (2nd Section) |
| C. Dead-man's handle        | G. Large Piston (1st Section) |
| D. Carrying handle (option) | H. Cylinder                   |

### 6.2 Specifications

#### Ram model: HTR3350

Allowable operating pressure	:	10,500 psi	(720 bar)
Max. Force (NFPA-1936 HSF) 1 <sup>st</sup> Section*	:	49,145 lbs	(218.6 kN)
Max. Force (NFPA-1936 HSF) 2 <sup>nd</sup> Section**	:	18,210 lbs	(81 kN)
Max. spreading travel	:	29.25 inches	(743 mm)
Piston length 1st Section	:	15.25 inches	(387 mm)
Piston length 2nd Section	:	14 inches	(356 mm)
Weight, ready for use	:	40 lbs	(18 kg)
Closed Dimensions (LxWxH)	:	21" x 16.5" x 6 1/8"	(533 x 420 x 155 mm)
Oil volume required for opening	:	96.4 cu in	(1580 cc)
Oil volume required for closing	:	18.9 cu in	(310 cc)
Net required oil volume	:	77.5 cu in	(1270 cc)
Temperature range	:	-4 F° to + 176° F	(-20 °C to + 80 °C)

\* The maximum (HSF) and minimum (LSF) forces are equivalent.

\*\* The maximum (HSF) and minimum (LSF) forces are equivalent.

#### Opening and closing times (sec.) for HTR3350.

Open Close	2032	2035 GU	2035 PU	2035 EPA	2060 B&S	2060 Honda	2060 GU	PPU15	DPU60 B&S	DPU60 Honda	DPU60 E
3350	75	40	39	39	34	35	37.5	37	44	44	44
	21	32	34	34	31	32	34	32	34	34	35

The times shown are for opening & closing under no load.



## 7. Operation

The oil from the hydraulic pump is supplied to the unit via high-pressure hoses. The oil returns at atmospheric pressure to the pump if the dead-man's handle is in the neutral position.



**Fig. 1. Control handle label.**

Oil is admitted under the piston if the dead-man's handle is in the “open” position. The ram pistons will move out of the cylinder. The oil above the piston flows back to the pump.

Oil is admitted above the piston if the dead-man's handle is in the “close” position. The ram pistons will retract into the cylinders. The oil below the piston flows back to the pump.

The dead-man's handle always returns to the neutral position when released.

The hydraulic system in the unit is provided with a safety valve. This safety valve prevents excessive pressure in the tool if the return line to the pump is blocked or disconnected. Never change the setting of this safety valve. Oil will discharge from the rear of the tool if the return hose becomes blocked or disconnected while the pump pressure relief valve is in “PRESSURE”/“OPERATION” position. If this happens, first switch the pump pressure relief valve to the “NEUTRAL” position, and then re-connect the return hose of the tool.

### 7.1 Spreading

The spreading distance is no less than 29 ¼” (3350) and 11” (3340). The maximum and minimum spreading forces are measured in accordance with NFPA-1936, standard on powered rescue tools, 1999 edition. The maximum (HSF) and minimum (LSF) forces are equivalent at all points on the stroke of the plunger.

### 7.2 Pulling

The 3340 and 3350 telescopic rams are not rated for pulling. These tools should not be used for any pulling operations.



## **8. Use**

### **8.1 Initial use (first time only)**

- \* Check the equipment for damage. Do not use the equipment if it is not in good condition. Notify your dealer.
- \* Check whether the guarantee registration card has been supplied and filled in.
- \* Check whether the accessories are correctly mounted.

### **8.2 Preparation for use**

- \* Check the operation of the dead-man's handle (return to neutral position).



## 8.2.1 Coupling

The unit is equipped with different quick-action couplings, i.e. "male" and "female".

### CAUTION

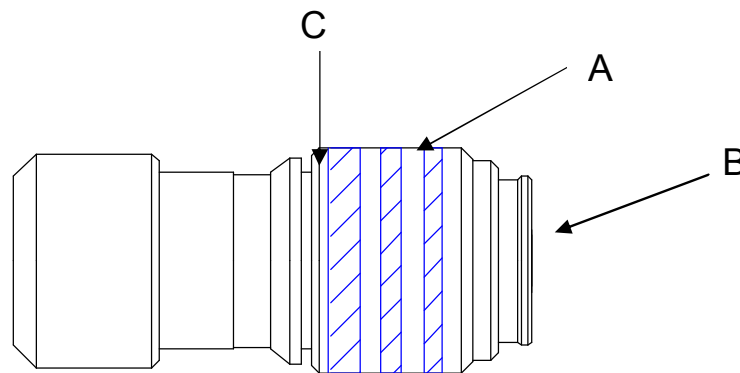
Never connect or disconnect the quick-action coupling when the pump relief valve is set to "PRESSURE"/"OPERATION"/". Set the pump relief valve to its "NEUTRAL" position before coupling or uncoupling hoses and/or tools.

To couple the hoses using the flat face coupler:

1. Remove the dust caps from both the male and female couplers.
2. Insert the male coupler into the female coupler and push.
3. The coupler's locking ring (A) will move forward to show the coupler is locked.
4. Check to make sure the connection is made by pulling on the two couplers.

To uncouple the hoses using the flat face coupler:

1. Turn the locking ring (A) of the coupler ¼ turn counterclockwise when holding it in your hand pointing away from you (direction of large arrow on coupler) **and** pull back on the locking ring (direction of small arrow on coupler).



2. Remove the male coupler from the female coupler if it has not released completely.
3. Make sure you put the dust caps back onto the couplers when not in use. This is an important step to keep dirt and foreign objects from getting into the coupler.

Clean the female coupler by removing any dirt, oil, etc. with a clean dry rag. To ensure the automatic locking capability of the coupler, the coupler should be checked periodically and cleaned by following the simple steps below:

1. Rinse the coupler with lukewarm water and a soft soap solution.
2. When the coupler is dry and free from water, lubricate the flat end of the coupling (B) with Holmatro recommended hydraulic oil or by spraying WD-40 onto the end.
3. Lubricate the locking sleeve by spraying WD-40 carefully in the area (C) between the back part and the locking sleeve.
4. Connect the nipple into the coupling and see if the locking sleeve easily turns itself to the lock position. Check by pulling the locking sleeve straight back. The nipple should not disconnect.
5. To disconnect the nipple, turn the locking sleeve and pull it backward.
6. Repeat steps 4 and 5 a few times to assist internal lubrication of the locking sleeve.



### 8.2.2 Use

Turning the dead-man's handle clockwise has the same result in all Holmatro equipment (from 01.01.95): the functional parts are opened. The functional parts are closed by turning counter-clockwise. As soon as the dead-man's handle is released it automatically returns to its neutral position and the unit stops operating immediately.

### 8.2.3 Spreading:



Ensure that the original crossheads are attached correctly.

The pistons are extended by turning the dead-man's handle clockwise and objects can be pushed apart. The pump automatically supplies the required pressure as soon as the cross heads experience any resistance.



Prevent sharp protrusions from touching the piston during spreading. Damage leads to leakage through the seal.



Prevent the cross heads from sliding from the load. Use the optional ram support for weakened car bodies (see accessories section). Use only original Holmatro accessories and attach them correctly.

### 8.2.4 Shutting down

On completion of the work retract the pistons back into the cylinders. Check that the pump relief valve is in its "neutral" position before uncoupling. Remove any dirt from the couplings and the dust caps to prevent penetration into the hydraulic system. Take the dust caps apart and place them on the tool's couplings.



When the retracting movement stops, spread the pistons again over a small distance of approx. 1/4 inch to relieve any pressure in the tool and store the tool in that condition.

### 8.2.5 Cleaning and storage

Clean the unit and any accessories used before storage.

- \* Clean all quick-action couplings. Ensure that the dust caps are installed.
- \* Check the tool for external damage and/or oil leakage.
- \* Check the operation of the dead-man's handle.
- \* Dry the unit if it has been used in wet conditions. Lightly oil the steel parts.
- \* Clean the tool with a mild soap solution and dry thoroughly.

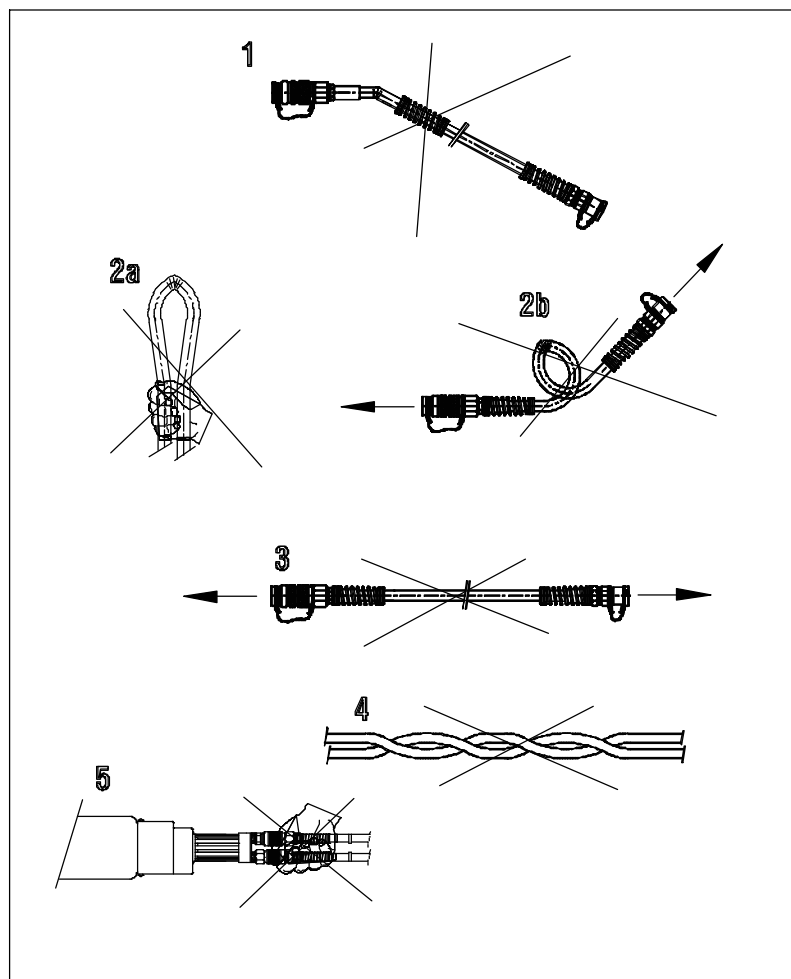


### 8.3 Important additional user information

#### **⚠ WARNING**

The hydraulic hoses belonging to the hydraulic system need attention.  
Observe the following points:

1. Do not use hoses without proper anti-kink devices and prevent kinking behind the attachment.
2. Prevent kinking of the hoses and never bend the hoses beyond their minimum bending radius (89 mm) (3 ½ in).
3. Do not pull the hoses to move tools or pumps.
4. Prevent twisting of the hose.
5. Do not use the hoses to keep the equipment in position and especially not if the hoses are pressurized.





## 9. Troubleshooting

### 9.1 The quick-action couplings cannot be connected or disconnected.

1	Check tool control handle position →	<i>Handle in open or close position</i> →	Release control handle to neutral position
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↓ *Control handle in neutral*

2	Check for any pressure in the system →	<i>System pressurized</i> →	Release pressure at the pump
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↓ *Pressure relieved*

3	Check the coupling locking ring location →	<i>Incorrect position</i> →	Release locking ring
---	--	-----------------------------	----------------------

↓ *Locking ring released*

4	Consult your Dealer
---	---------------------

### 9.2 The connected equipment is not operating - or not properly.

1	Check the pump hydraulic oil level. →	No or low hydraulic fluid →	Add recommended hydraulic fluid up correct level.
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↓ *Hydraulic fluid level correct*

2	Check the connections (quick-action couplings). →	<i>Incorrect coupling.</i> →	Release pressure at pump by switching handle to the “NEUTRAL” position. Reconnect the couplings.
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↓ *Couplings correct*

3	Check the position of the pump pressure relief valve. →	<i>Valve in “NEUTRAL” position.</i> →	Turn valve to “OPERATION” position.
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↓ *Valve position okay*

4	Consult your Dealer
---	---------------------



### 9.3 Hydraulic oil is leaking from the tool safety valve.

1	Check quick-action couplings →	<i>Loose or disconnected couplings</i> →	Relieve the pressure at the pump and re-connect the couplings.
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↓ *Couplings okay*

2	Consult your Dealer
---	---------------------

### 9.4 The dead-man's handle is not operating properly.

1	Check control handle for external damage →	<i>Control handle damaged</i> →	Contact your Holmatro Dealer
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↓ *Control handle okay*

2	Check if the dead-man handle is stuck in any position. The control handle should move freely. →	<i>Dead-man handle stuck</i> →	Contact your Holmatro Dealer
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↓ *Dead-man handle okay.*

3	Consult your Holmatro Dealer
---	------------------------------

Consult your dealer in case of other problems or if the solutions provided above do not have the required results. In case of failure or repairs, always specify the model and serial number of the equipment to your dealer.

ALWAYS SHIP THE TOOL IN ITS ORIGINAL SHIPPING BOX.



## 10. Maintenance



Wear personal protection equipment during maintenance. Ensure that any spent replaced hydraulic oil is collected and disposed of in a responsible manner, think of the environment.

### 10.1 Regular maintenance (minimum every 3 months)

It is necessary to carry out regular maintenance. Increased use will necessitate more frequent maintenance intervals. Consult your dealer.

- \* Check whether the safety symbols and product identification labels are still present. If not, consult your dealer.
- \* Check the functions of the dead-man's handle.
- \* Check the accessories.
- \* Check the hoses, quick-action couplings and dust caps.
- \* Check the operation of the equipment.

### 10.2 Annual maintenance

With the proper care and correct preventive maintenance this unit will ensure many years of safe use. We recommend having the unit checked at least once a year by a trained technician with the proper knowledge and the necessary tools. Your dealer can carry out the annual maintenance on a contract basis on your behalf, if desired. This will ensure good and safe operation.

### 10.3 Five yearly maintenance and testing

We advise you to have the equipment checked and tested by your dealer or other body certified by Holmatro after a maximum of five years of use. Consult your dealer for further details.

### 10.4 Long-term storage

- \* Ensure that the equipment is completely depressurized.
- \* Store the equipment in a dry, well-ventilated area. Use additional preservatives on the external steel parts.

## 11. Scrapping

The unit can be scrapped at the end of its service life and the various parts may be recycled. Collect the hydraulic oil and dispose of it separately. The unit consists of steel, aluminium, neoprene (seals) and plastic. The unit does not contain any pressurized components.

Also, consult your dealer about scrapping.



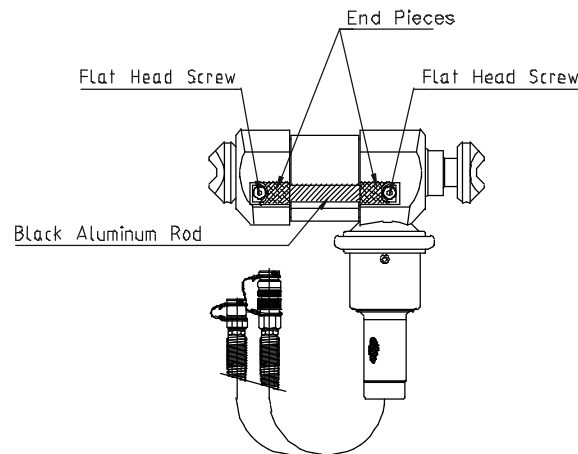
## 12. Accessories

Two cross heads are supplied as standard with every unit. Additional accessories may be ordered, if required. Contact your Holmatro Dealer for details.

### Carrying handle

The Holmatro telescopic ram you have purchased comes with an optional carrying handle. If your fire department or rescue company desires, the handle can be installed with ease. The handle is not installed at the factory, because some rescuers may feel that the handle takes up too much space when working in confined areas. To install the handle complete the following steps: (See diagram below)

1. Make sure the handle kit is complete. The kit includes:
  1. two flat head attachment screws
  2. two end pieces
  3. one black aluminum rod
  4. one Allen wrench
2. Insert the black aluminum rod into the end pieces. This is a snug fit, the use of a rubber mallet may be required.
3. Attach the end pieces to the ram using the two flat head screws as shown in the figure below. The holes for the screws are already drilled and threaded into the body of the ram. The use of glue on the screws is not needed; however, if desired glue can be used. A NON permanent loctite is recommended.
4. Tighten the screws into the ram until they are snug. Be careful not to over tighten.





## 13. Technical information

**HTR3340/3350.**

Made in the USA



The model 3340 and 3350 telescopic rams are not designed to be used as jacks and should never be used as such. Never work under a load lifted by the model 3340 or 3350 telescopic ram. To safely lift a load, you may use Holmatro's air lifting bag. Properly chock the load before lifting.

Qualified persons authorized by Holmatro may only make repairs and/or service to Holmatro® rescue tools. An active and presently authorized Holmatro dealer may only disassemble the sealed parts. Contact your dealer for further advice if other problems occur. In the event that you are unable to contact your dealer, contact Holmatro at:

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